Guns and Ammunition, Missiles and Rockets

National Defense Industrial Association (NDIA)

Armament Division

2002 Division Status

24 March 2003
Observations

DoD Vision

- Transformation
  - Jointness
  - Responsive flexibility

NDIA Armament Division

- Seeking to ensure relevance
  - Enabling “community” awareness — communication
    - Evolving organizations
    - Listening
      - Expanded participation

Transforming Together Effectively
Armament Division Success

Guns and Ammunition/Missiles and Rockets

Value Added Has Been Demonstrated

Leadership to Strengthen the Armament Community

Challenge: Applying Technology, Systems for Transformation

Ensuring Readiness . . . . Advancing Superior Capability

Small Arms Committee

Symposium Benefits Confirmed

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Purpose

Superior Technology and Systems — Readiness — Affordability

Provide organizational focus to Armament Systems used by U.S. and allied countries and to address other topics relevant to armament systems

- “Lessons learned”/deficiencies/needs
- Requirements pull/technology push
- Development
- Deployment
- Operations
- International cooperation
- Acquisition
- Affordability
- Supportability
- Spiral development*

Life Cycle Focus

Acquisition Management

*Critical new focus

Adapt Organization to Meet Priority Topics
Leadership

Objective: Coordinated Focus and Vision for Armament Systems

Armaments Division

Dave Broden

Committees

Sponsors:
- Small Arms Systems
  - Brian Berger
- Guns and Ammunition Systems
  - Don Guziewicz
- Rockets and Missiles
  - Bob Foster
- Future TBD
  - TBD

Themes, areas discussed; no specific action

Transforming the Organization – Ensures Relevance

Scope – Area of Interest – Responsibility
Definition Clarity

Seeking Cooperation with Related Sections
## Committee Scope

<table>
<thead>
<tr>
<th>Small Arms Systems</th>
<th>Guns and Ammunition</th>
<th>Missiles and Rockets</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual weapon(s)</td>
<td>Medium caliber systems</td>
<td>Tactical missiles and rockets</td>
</tr>
<tr>
<td>Crew served weapon(s) (e.g., ≤ 40mm)</td>
<td>Tank systems</td>
<td>Shoulder fired systems</td>
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<tr>
<td>Full life cycle</td>
<td>Mortar systems</td>
<td>Ground launched</td>
</tr>
<tr>
<td>Supportability</td>
<td>Artillery</td>
<td>Aircraft/helicopter launched</td>
</tr>
<tr>
<td>– Training</td>
<td>Naval gun systems</td>
<td>System integration</td>
</tr>
<tr>
<td>– Logistics</td>
<td>Aircraft/helicopter systems</td>
<td>Manned/robotic</td>
</tr>
<tr>
<td>System integration</td>
<td>Platform integration</td>
<td>Life cycle</td>
</tr>
<tr>
<td>Target Acquisition/Fire Control System (TA/FCS)</td>
<td>Manned/robotic</td>
<td></td>
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</tr>
</tbody>
</table>

**Common Enabling Technologies, Modeling/Simulation, Man-Tech**

**Links to Other Committees**
Armament Division Attendance Summary

- **Attendance**
  - 1997 & 1998: 316
  - 1999: 343
  - 2000: 386
  - 2001: 486
  - 2002: 529

- **International Symposium**
  - 1999: 300
  - 2000: 147

- **Small Arms**
  - 1999: 322
  - 2000: 298
  - 2001: 355
  - 2002: 400+

- **Guns and Ammunition**
  - 1999: 322
  - 2000: 298
  - 2001: 355
  - 2002: 400+

- **Missiles and Rockets**
  - 2000: 147
  - 2001: ~130+
  - 2002: 120

**Core Attendance**
- 1997 & 1998: 316
- 1999: 343
- 2000: 386
- 2001: 486
- 2002: 529

**Growth Objective**
- 2000: 300
- 2001: ~130+
- 2002: 120

**Interest and Commitment = Growth**

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**Solid Growth Trend**
Evolving Technology to Meet Emerging Threats

Addressing the Theme!

- Pushing technology envelope
- Pushing integration envelope
- Adding functions
- Manned and robotic applications

- Capability focused complementary integrated systems
- Address key force multipliers
  - Precision
  - Mobility
  - Communication
  - Situation awareness
  - Lethality

- Planning and implementing Spiral Development
Symposium Themes

• Keynote link — message

• Framework for presentation(s)

• Presentation objectives and benefits
  – Link to theme

• Exhibits/displays/demonstrations
  – Connect to theme

• Effective “networking” forum

Themes: Link Community, Systems, Technology with Operational Capability and Related Concerns
Linking to Theme

Applying Technology to Meet Emerging Threats

- Direct Integration
- Spiral Development

- Requirements Pull
- Technology Push

- Threat Specific Solutions vs. Capability Driven and Adaptable
  - Spiral Development

Response to Symposium Theme
- Adaptable, Innovative, Visionary, Capability Focused
Linking to Theme

Supporting the Combat Unit to Combat Support of Terrorism

- Understand "After Action Report"
- Response to Need
- Innovative Concepts

- Individual
- Crew Served
- Unique Platforms
- Adaptability

- Weapon(s)
- System Integration
- Sensors
- Target Acquisition/Fire Control System
- Spiral Development

Response to Symposium Theme
- Adaptable, Innovative, Visionary, Capability Focused
Armament Division 2003 Highlights

- Expanded use of panel discussions focus to key interest topics
- Solid links to Transformation topics
- Focus on relevant topics
- Make-up and action of executive committees strengthened
- Organization of National Small Arms Center evolving
  - Similar to WETC
  - Focus to small arms
  - Growth consideration if proven effective
- Leadership in Navy SUW Study
- Recognize forum for business/technology “networking”
  - Building relationship for understanding and success
Armament Division Impact

• “Lessons Learned” awareness — focus improvements

• Visibility of armament capability changing vision
  – Realizing precision
  – Technology synergism
  – Complementary capability
  – Spiral development

• Strengthening technology and readiness
  – Maintain strong development and production base
  – Evolving organizational and funding structure(s)
  – Understanding technology readiness

• Dialogue of key issues and topics — panel discussions
1. Realizing Transformation
   – Objectives
   – Successes
   – Barriers
   – The future

2. System selection and definition Decision Level/Criteria
   – Weapon
   – Integration
   – Operational

3. Balancing Transformation Objectives and Legacy systems
   – Ensuring readiness
   – Integrating change

Symposium Agenda Expand Dialogue
4. **Addressing** system integration — all aspects

5. Spiral development and fielding — concept or reality?
   – Examples
   – Process
   – Barriers

**Symposium Dialogue Enables Understanding**
Division Links to DoD

• Strengthen and become visible
• Establish active sponsor(s)
  – Participation
• Ensure multi-service “purple” balance (“jointness”)
• Link to trends

Strategic Focus

• Ensure all committees have a strategy
• Executive committee make-up
• Committees must help make community (DoD/industry/international) more effective
• Transform objectives, membership, leadership for ensured relevance
Symposium Quality
• Key program/theme/organizational leadership must be involved/participate
• Solid keynote messages
• Presentations focused to key areas — “add value”

Joint Symposiums
• Within NDIA
• With other organizations
  – National
  – International

Displays/Exhibits
• Link to themes/trends (message to exhibitors)
• Emphasis industry response to needs/themes
1. Facilitate dialogue of “After Action – Lessons Learned”
   – Understanding
   – Product design/performance impact
   – Technology assessment

2. “Pool” expertise to address key priority topics
   – Multi-company
   – Multi-agency

3. “Capture” community committee priorities . . . ensure relevance
   – Questionnaires
   – Panels

   – Key leadership must participate
   – Ensure committee critique
     • Communicate
     • Change

5. Expand use of “Panel” discussions on critical topics
   – Expertise
   – Pros/cons
   – Surface key concerns
Ensuring Relevance

• Evolve executive committee
  – Integrate relevant organization
    - Industry
    - Government
  – Strategic response

• Symposium themes
  – Future “vision” focus
  – Ensure readiness

• Symposium content
  – Include emerging technology and capability

• Attendees
  – Active participation of emerging resource
  – Network forum

Armament Division is Transforming and Responsive
Approach Evolving Value = Capability Driven

Systems of Systems for Total Force Capability

Components and Systems to Performance Specs

Spiral Technology Insertion

Evolving Integrated Capability

Capability Focus

Hardware Focus

Superior capability!
Higher level decision criteria!
Technology, integration, and system acquisition changes
Armament System Decision Levels

Capability Based Force Raises Decision Level Metric

Cost decisions linked to multiple systems and operations

Seeking capability based value

Operational Objectives
- Scenario Variables and Weapon Mix
- Force on Force Pk (one – one – one)
- Force Integration Exchange Ratio(s) Effectiveness

Basic Evaluation
- Baseline Performance
- System Integration System Components

Individual Systems
- Metrics
- Metrics Parameters

Design/Performance Decisions
- Requirements
  - Pull technology
  - Guide systems
- Technology
  - Push technology
  - Change capability
  - Spiral development/insertion

Cost Value

Individual Systems
Objective: International cooperation and integration of symposiums benefiting industry and Department of Defense to encourage partnerships for development, production, and interoperability

Approach: Coordination of NDIA Armament Division programs with “Symposium at Shrivenham” The Royal Military College of Science

European Small Arms and Cannon Symposium
August 2003
2003 Top Defense Issues

1. Funding America’s defense for Wartime and Transformation
2. Sustaining the Defense Industrial Base
3. Protecting the Defense Industrial Base
4. Improving the International Competitiveness
5. Transforming Training and Logistics
6. Implementing a reasoned strategy for Network Centric Operations
7. Utilizing small businesses

NDIA Board of Directors Approved Focus

Established by Government Policy Advisory Committee
NDIA Communications

• National Defense Magazine
  – Emphasis on relevant and timely topics
  – Frequently quoted and source of media, DoD, and Congressional reference

• Website
  – Symposium presentations available — meets attendee needs for access
  – Complementary information
  – Full list of activity

NDIA Messages and Content Has Impact

and

Website Used Extensively as Resource
Bottom Line

NDIA Focus  Transform the Organization  Ensures Relevance

Addressing Issues Critical to Guns and Ammunition, Missiles and Rockets

Armament Division Focus
- Strong interest and participation
- Linked to key DOD and service strategies
- Encouraging leverage for complementary systems
- Effective use of exhibits, demonstrations, and tours
- Transitioning membership and participation profile

Transforming Vision for 21st Century Relevance

Applying System Synergism to Meet Transformation Goals
Leadership Vision

NDIA Armament Division Is:

- A relevant voice and forum
- Responsive to DoD community and industry challenges
- Transforming to ensure relevance to changing military, geopolitical environments, and technology

The NDIA Community is the Resource of Choice For Excellence in National Defense Topics/Communications